

What is claimed is:

1 1. A wireless communication device, comprising:
2 a shielding unit;
3 a first antenna unit transmitting a first signal
4 between a first time and a second time; and
5 a second antenna unit separated from the first
6 antenna unit by the shielding unit,
7 transmitting a second signal between a third
8 time and a fourth time, wherein the third time
9 or the fourth time occurs between the first
10 time and the second time to form a
11 predetermined interval in which the first
12 signal and the second signal are simultaneously
13 transmitted.

1 2. The wireless communication device as claimed in
2 claim 1, wherein the first antenna unit is provided with
3 a first parameter with respect to the shielding unit and
4 the second antenna unit is provided with a second
5 parameter with respect to the shielding unit, such that
6 the first antenna unit generates first energy by
7 adjusting the first parameter and the second antenna unit
8 generates second energy by adjusting the second parameter
9 and the first energy is substantially equivalent to the
10 second energy.

1 3. The wireless communication device as claimed in
2 claim 1 further comprising a first ground plane connected
3 to the first antenna unit with respect to the shielding

4 unit, a second ground plane connected to the second
5 antenna unit with respect to the shielding unit and a
6 far-field position used as an observation point to
7 observe a first reflecting effect formed by the first
8 signal reflected by the first ground plane and a second
9 reflecting effect formed by the second signal reflected
10 by the second ground plane and equivalent to the first
11 reflecting effect.

1 4. The wireless communication device as claimed in
2 claim 1, wherein the first antenna unit and the second
3 antenna unit are dipole antennas.

1 5. The wireless communication device as claimed in
2 claim 1, wherein the first antenna unit is a 2.4GHz
3 internal dipole antenna and the second antenna unit is a
4 5GHz internal dipole antenna.

1 6. The wireless communication device as claimed in
2 claim 1 further comprising a first ground plane connected
3 to the first antenna unit, a second ground plane
4 connected to the second antenna unit, wherein the first
5 antenna unit is provided with a first transmission loss
6 and the second antenna unit is provided with a second
7 transmission loss, and difference between the first
8 transmission loss and the second transmission loss is
9 compensated by the first ground plane and the second
10 ground plane.

1 7. The wireless communication device as claimed in
2 claim 1, wherein the first antenna unit is a 2.4GHz

3 internal dipole antenna and the second antenna unit is a
4 5GHz internal dipole antenna, and a second equivalent
5 gain of the second antenna unit is approximately equal to
6 1.77dBi when a first equivalent gain of the first antenna
7 unit is approximately equal to 0.55dBi.

1 8. A wireless communication device, comprising:
2 a shielding unit;
3 a first antenna unit transmitting a first signal;
4 a second antenna unit separated from the first
5 antenna unit by the shielding unit,
6 transmitting a second signal, wherein the first
7 signal and the second signal are simultaneously
8 transmitted; and
9 a control unit electronically connected to the first
10 antenna unit and the second antenna unit,
11 modulating and demodulating the first signal
12 and the second signal.

1 9. The wireless communication device as claimed in
2 claim 8, wherein the first antenna unit is provided with
3 a first parameter with respect to the shielding unit and
4 the second antenna unit is provided with a second
5 parameter with respect to the shielding unit, such that
6 the first antenna unit generates first energy by
7 adjusting the first parameter and the second antenna unit
8 generates second energy by adjusting the second parameter
9 and the first energy is substantially equivalent to the
10 second energy.

1 10. The wireless communication device as claimed in
2 claim 8 further comprising a first ground plane connected
3 to the first antenna unit with respect to the shielding
4 unit and a second ground plane connected to the second
5 antenna unit with respect to the shielding unit, wherein
6 the first antenna unit is provided with a first
7 transmission loss and the second antenna unit is provided
8 with a second transmission loss, and a difference between
9 the first transmission loss and the second transmission
10 loss is compensated by the first ground plane and the
11 second ground plane.

1 11. The wireless communication device as claimed in
2 claim 8, wherein the first antenna unit and the second
3 antenna unit are dipole antennas.

1 12. The wireless communication device as claimed in
2 claim 8, wherein the first antenna unit is a 2.4GHz
3 internal dipole antenna and the second antenna unit is a
4 5GHz internal dipole antenna.

1 13. The wireless communication device as claimed in
2 claim 8 further comprising a first ground plane connected
3 to the first antenna unit, a second ground plane
4 connected to the second antenna unit, wherein the first
5 antenna unit is provided with a first transmission loss
6 and the second antenna unit is provided with a second
7 transmission loss, and a difference between the first
8 transmission loss and the second transmission loss is

9 compensated by the first ground plane and the second
10 ground plane.

1 14. The wireless communication device as claimed in
2 claim 8, wherein the first antenna unit is a 2.4GHz
3 internal dipole antenna and the second antenna unit is a
4 5GHz internal dipole antenna, and a second equivalent
5 gain of the second antenna unit is approximately equal to
6 1.77dBi when a first equivalent gain of the first antenna
7 unit is approximately equal to 0.55dBi.